



SVC400P/SVC800P

4/8 Camera Live Tracking Vehicle DVR

Installation Manual

Version 1.0



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1. MAIN FEATURES

The SVC400P/SVC800P is an embedded Mobile Digital Video Recorder (MDVR) that provides the perfect surveillance solution for vehicles. It features H.264 video compression which guarantees a high quality image, high compression rate for smooth and fast network transmission.

A special movable plastic HDD case allows you remove and access the stored data easily and efficiently. . The powerful CMS software provides

- Remote Monitoring
- GPS Locations
- Local Recording
- Remote Downloading
- Alarm Report System

Additionally the MDVR's CMS is set-up to provide automatic services for the protection of its data such as recovery, data-monitoring and backup for all its critical data.

2. PRODUCT OVERVIEW

Front View



Definition for LED and connector on front panel:

Items	Name	Description
Video Output	VIDEO_OUT	Video output
LED	HTR	Heater LED.
	SD	Flash when the SD is writing and reading.
	REC	for record, ON means recording normal
	GPS	For GPS signal
	NET	For displaying the network status
	POWER	For power, when the MDVR is powered, the LED will be lit
	HDD	If the MDVR install HDD is working fine. The LED will be lit
	ERR	If the MDVR has errors such as no HDD, the LED will be lit
	ALARM	If the MDVR has triggered an alarm, the LED will flash
	VLOSS	It will flash if video loss happens

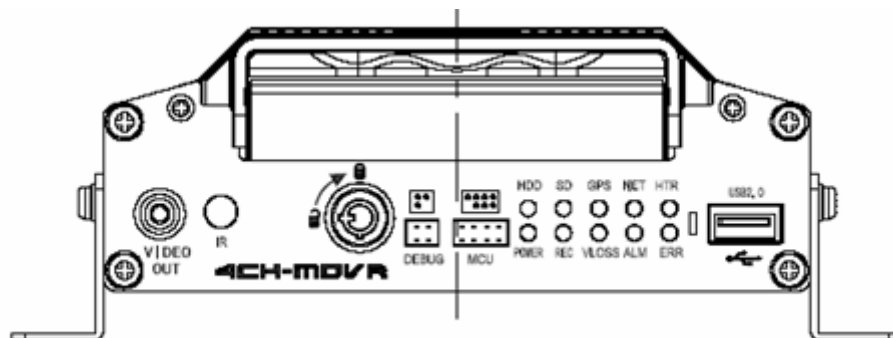
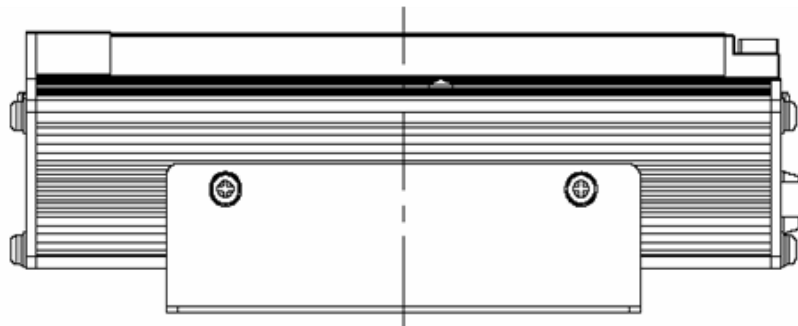
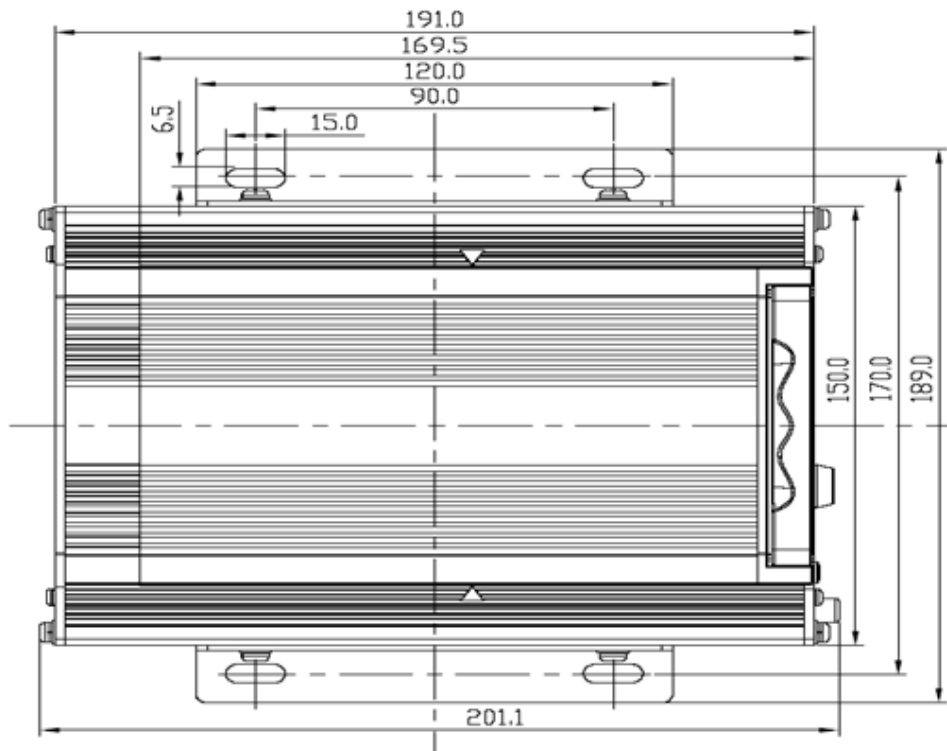
IR receiver	IR	For receive the signal of remote control
System Information	DEBUG	Testing series port for MDVR device
USB Interface	USB2.0	USB2.0 for record files back up or firmware update
Lock	LOCK	Need to lock the HDD case before boot up the MDVR, Otherwise, the MDVR can not boot up. When the MDVR is working, unlock the HDD case and then MDVR will standby.

Rear View



Items	Name	Description
WI-FI ANT connector	WI-FI	For connecting the WIFI ANT
GPS ANT connector	GPS	For connecting the GPS ANT
3G/EDGE/GPRS ANT connector	EDGE	For connecting the 3G/EDGE/GPRS ANT
Power input	DC8-48V	For connecting power input
Network port	RJ45	Network port to make sure the MDVR can go online
A/V Integrated input	A/V	A/V input and output and alarm output Power supply for camera
I/O Input and Output	I/O	I/O sensor input and output
EXTEND Interface	EXTEND	For extend function, such as RS485 and RS232 serials port.

3. DIMENSIONS



4. PACKAGE CONTENTS

Please ensure that the SVC400P/SCV800P's box includes the following items:

- MDVR's Recording Module and Mounting Assembly
- Video Input/ AV output cable
- Power cable
- USB Cable
- Screws for installing the unit
- A set of keys for locking and/or unlocking the HDD case and a fuse
- Handheld IR remote control (batteries not included)
- Installation bracket

Accessories available for the SVC400P/SCV800P include the following:

- Alarm Input Box (SVA400A)
- GPS Module and Antenna (SVA400G)
- 3G Module (SVA400T)
- Wifi Module (SVA480W)
- Din Plug to BNC Socket Adapter (SVA480C)
- Locking Box (SVA400L)

5. MOUNTING AND ENVIRONMENTAL REQUIREMENTS

To ensure the MDVR operates efficiently and within the product warranty compliance, please adhere to all following installation instructions:

- **Power:** It is recommended that the MDVR be connected to the vehicle ignition. Battery power is used only when the vehicle is running. The MDVR could drain any vehicle battery over time if the ignition is not turned off.
- **Connection:** Connect only to appropriate power supply and ensure proper grounding of the circuit.
- **Moisture:** Protect unit and connections from environmental sources of moisture and liquid spills.
- **Temp:** Do not install where unit temperature will exceed F140°F (60°C), fall below -20°F (-28°C) or store the unit where temperatures rise above 175°F (80°C). Avoid direct exposure to sunlight.
- **Ventilation:** Provide sufficient ventilation with a minimum of 6 inches cooling clearance to ensure proper operating temperature for the unit.
- **Vibration:** If necessary, provide additional shock mounting to prevent damage and wear by excessive vibration.
- **Clearance:** Front clearance of 8 inch is required to slide the recording module from the mounting assembly.
- **Wiring:** Install where mounting assembly wires have sufficient clearance and will not be crimped or subject to wire insulation damages due to vibration.
- **Access:** Secure the MDVR so that passengers or drivers cannot tamper or damage the unit, cameras, wires or other accessories. Do not mount where access to any other vehicle component will be restricted.
- **Injury:** Install the unit, cameras, accessories and wires so that no injuries can be caused through impact with equipment during vehicle operation. Ensure that all transportation regulations are followed to avoid passenger injury should they come in contact with the installed equipment.

6. INSTALLATION TOOLS

Please ensure that you have the following tools available prior to commencing an installation:

- Drill and bits
- Screws/bolts and vibration dampening washers as appropriate for mounting
- Wire cutters and wire connectors
- Test for voltage and electric current

7. INSTALLATION INSTRUCTIONS

Follow these guidelines when installing MDVR's:

- Unpack all components provided in the package.
- Disconnect any source of power supply and/or devices.
- Locate a proper spot to install the SVA400L and install a built-in vibration absorber if required.
- Locate a reliable electrical ground point in the vehicle.
- All wires and connections should be gathered to the back of SVA400L.
- Connect to a power source and turn on the vehicle ignition to test the unit.
- Observe completion of the unit power-up procedures as described in section labelled as "System Startup and Shutdown".
- Meet all legal requirements for installing and/or operating a video surveillance, such as labelling all the essential information on the MDVR. Video surveillance statues vary across nations; please abide to the local statues.

8. CONNECTING THE POWER FOR THE MDVR'S

Wire	Description
Positive Input (Red)	Positive wire. Should be connected to the positive terminal of the battery (DC +12V)
GND Input (Black)	Negative (ground) wire. Should be connected to the negative terminal of the battery.
Ignition Signal Input (Yellow)	Connect with vehicle ignition to let the system start up (need provide +12V/24V DC power as signal ON/OFF)



The Ignition Switch is very important. Only once the MDVR's is to the ignition wire can it can boot up

The following conditions must be fulfilled at the same time for MDVR'S to boot up:

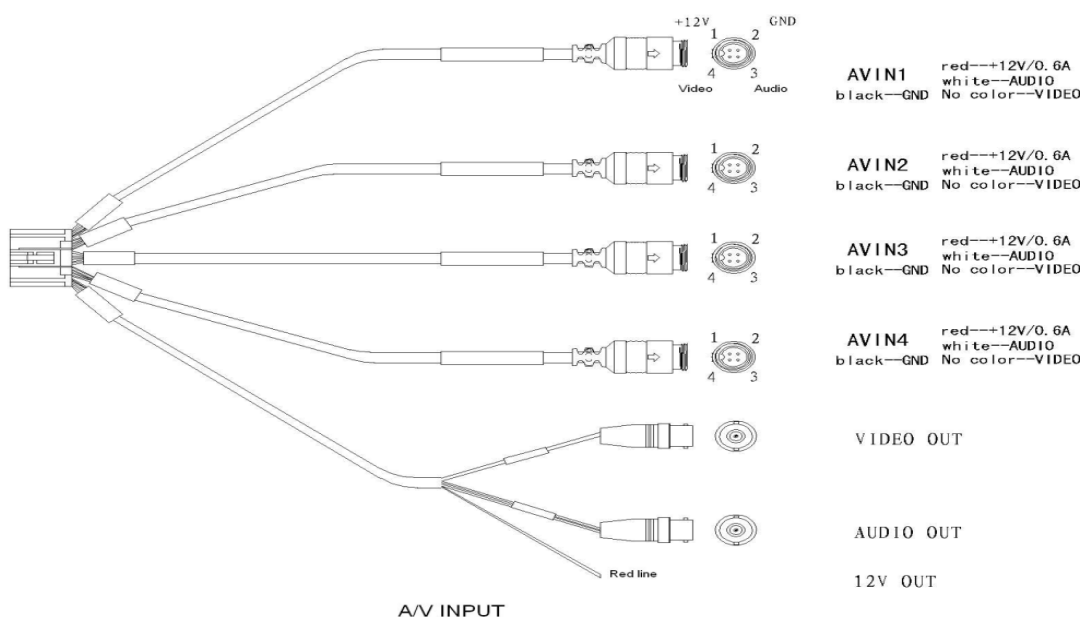
1. If you don't use ignition line, please connect it to positive terminal, otherwise the device can't startup.
2. Make sure the HDD installation is correct, since the MDVR will try to detect the HDD first before boot up. If the HDD installation is wrong, then the unit will continuously try to detect the HDD and MDVR's will not complete the boot-up process.

9. CONNECTING INPUTS AND OUTPUTS

9.1 The A/V Cable Definition (Video Input/ AV output)



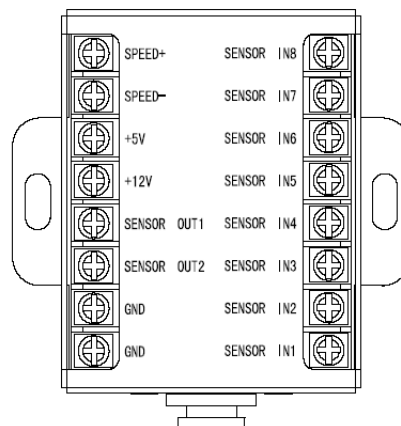
Specifications for the PINs:



A/V Cable interface definition:

Item	Name	Explanation
A/V INPUT	VIN1~VIN4	A/V input is a 4-pin female connector; 4CH machine has 4 A/V inputs, 8CH machine has 8 A/V inputs. Feet 1 is for 12V power input, feet 2 is for GND, feet 3 is for audio input, and feet 4 is for video input.
A/V OUTPUT	AV OUT	A/V output is a 4-pin male connector; feet 1 is for 12V power input, feet 2 is for GND, feet 3 is for audio input, and feet 4 is for video input.

9.2 Specifications for the SENSOR BOX (sensor inputs and outputs)

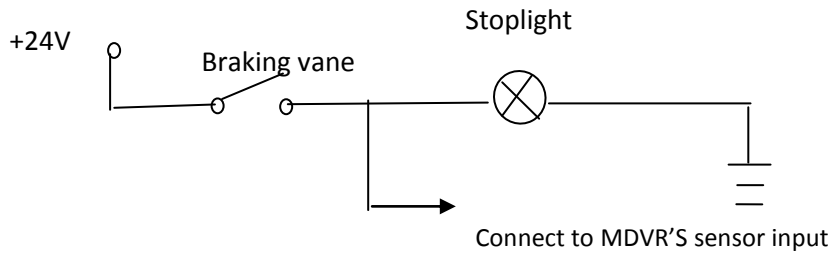


- SENSORS 1-6 are the inputs for I/O sensors,
- SENSOR OUT is for sensor output connection
- SPEED- and SPEND+ are for speed sensor, which connect to the speed pulse of the vehicle.

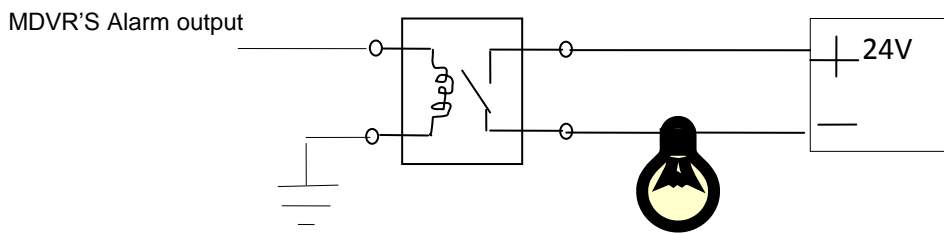
Firstly, follow the steps of GUI > SETUP > EVENT > SENSOR; then, enable the sensor switch; and make sure the alarm switch is ON, as shown below:

SENSOR							
	EN	NAME	OSD	SET	ALARM	LOCK	
S1	OFF	F-DOOR	FD	LOW	OFF	OFF	
S2	OFF	R-DOOR	RD	LOW	OFF	OFF	
S3	OFF	BRAKE	BK	LOW	OFF	OFF	
S4	ON	LEFT	LT	LOW	OFF	OFF	
S5	OFF	RIGHT	RT	LOW	OFF	OFF	
S6	OFF	RED WA	RW	LOW	OFF	OFF	
<div> NEXT PAGE SAVE EXIT </div>							

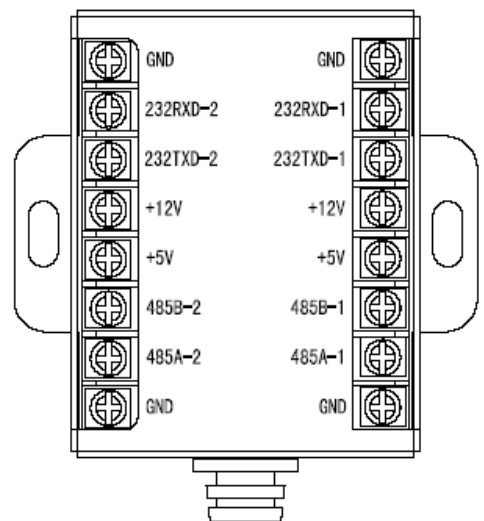
The MDVR has 6 Alarm inputs and 2 Alarm outputs. All alarm inputs are I/O PWL which can reflect various vehicle statuses such as braking, turning left etc. A schematic diagram of the alarm input 'braking' is shown below; when the brake is applied the MDVR will detect the I/O PWL, the alarm LED will light up (or flash) and will record this event.



All alarm outputs are PWL outputs, drive ability is 200MA, and the voltage is +12V, if you need more than that, please connect to an external relay. An alarm output photoelectric wiring diagram is as follows:



9.3 Specifications for 485 and 232 serial ports



There are two 485 serial ports and two 232 serial ports, the functions are the same.

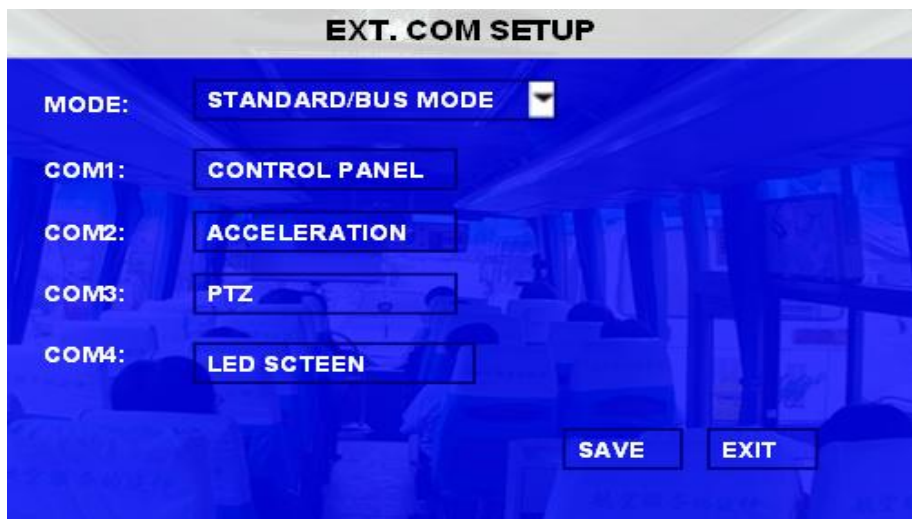
These serial ports can connect to accessories purchased from Shenzhen Streaming Video Technology, such as the inertia sensor (acceleration), control panel, PTZ, station announcement, and the card reader etc.

Please Note: 485A means 485+, 485B means 485-

SETUP > PERIPHERAL > EXT.COM SETUP

MODE: There are STANDARD and BUS MODE two options, when select standard mode, you can select each external port for each COM, when select Bus mode, COM1 is station announcement, COM2 is amplifier board, unchangeable, COM3 and COM4 is changeable.

Please Note: COM1 means 232RXD-1, COM2 means 232RXD-2, COM3 Means 485-1, COM3 Means 485-2. PTZ is recommended connect to COM3 or COM4.



10. WORKING STATUS

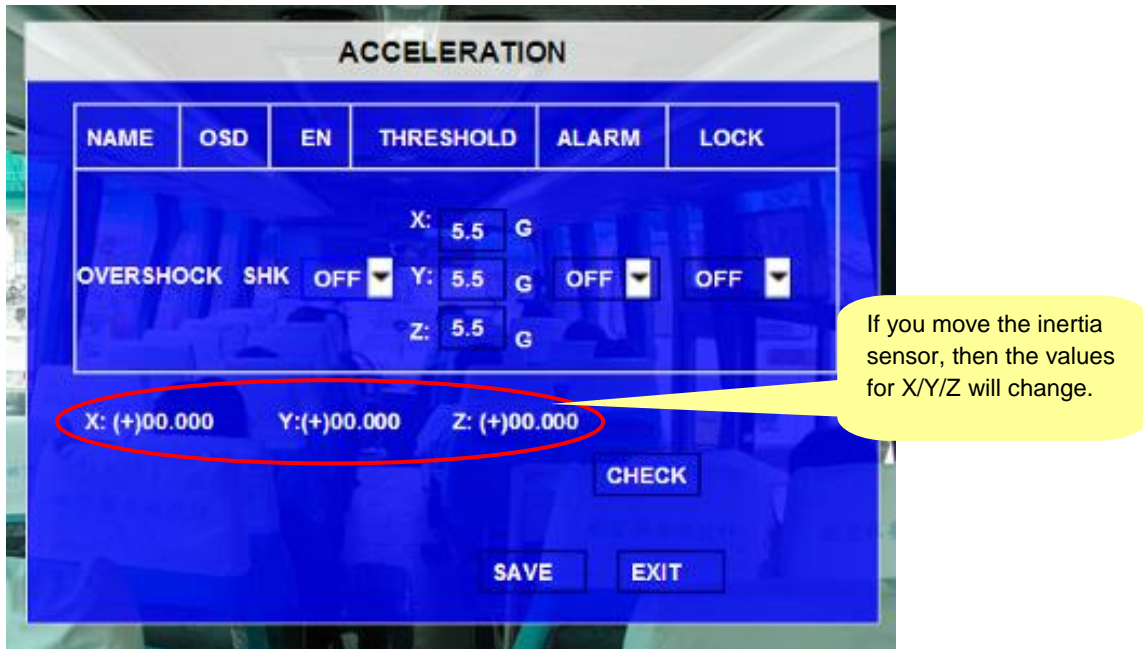


When device started up, please check the LED, HTR is ON means device has built-in heater, POWER is ON means the power is normal, ERR is ON means there is no HDD or some other hardware errors, NET is ON means the net module is normal, VIDEO LOSS is ON means there is video loss, if all the LED always flashing, and no live view, that means there is something wrong with MDVR, please contact with the sales.

Please Note: when MDVR has started up, and only POWER LED is on, and no live view output, please make sure you have locked the HDD box.

11. INERTIAL SENSOR CONNECTION

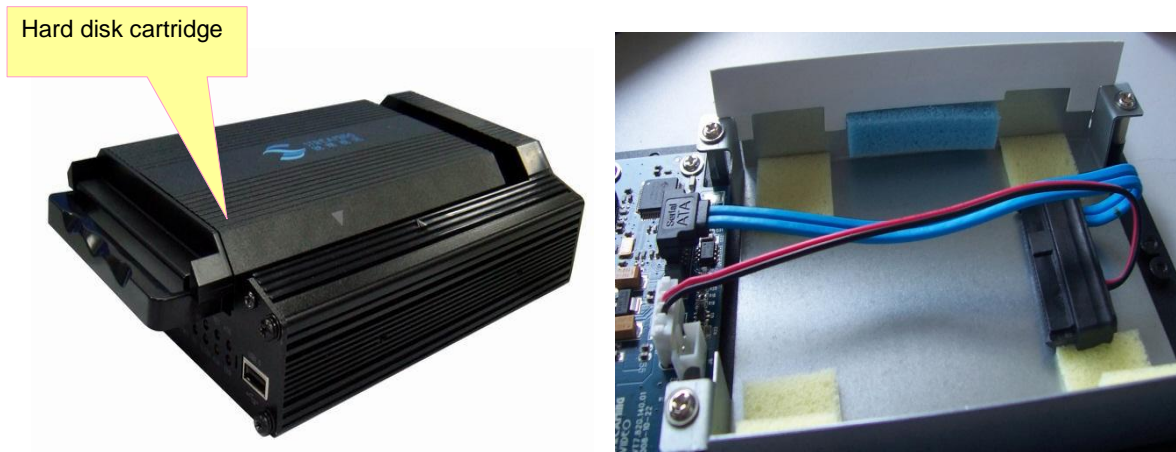
If the MDVR's is connected to the inertial sensor then you track its features in the unit's Graphical User Interface (GUI) as following (**SYSTEM > SENSOR > ACCELERATION**; and then press check):



After installing the inertia sensor, make sure that the **ENABLE** switch is turned on. Then press **CHECK** to verify its current values (all the values will be defaulted to 0).

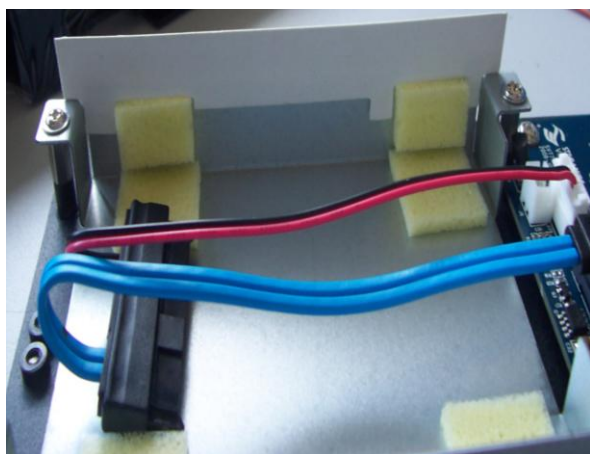
12. HDD INSTALLATION

- Open the lock with the key in fittings box, remove the HDD box and screws, and then open the box, as the picture below:

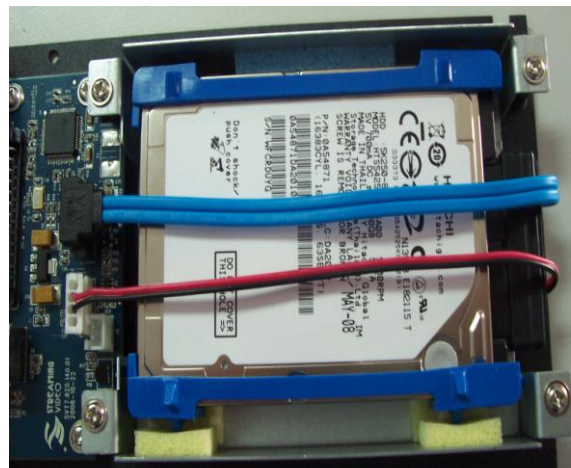


- Install the foam pad on both sides. Since there is no screw here, we are use rubber cover and foam pad as a vibration absorber. One side of the box is a blue foam pad; the other side is two yellow foam pads.
- Put the rubber cover on both sides of the SATA HDD, the side with a rubber band should be near to the circuit board. Connect the cable (please make sure the data cable is connected properly).
- Put the cover back-on and then refit the screws.

Please Note: Please lock the HDD after successfully installing the HDD, otherwise the MDVR will not start-up.



Install the vibration absorber foam



HDD installation

13. SIM CARD INSTALLATION



When the device has built-in 3G wireless module that support the wireless network communication the user will need to install the a SIM Card, as detailed in the image above:

- Remove the HDD box and the SIM Card cover
- Carefully insert the SIM card in place, re-attach the SIM Card cover and place the screws and HDD box back as normal, ensuring that you have connected the 3G antenna.
- Follow the steps of **GUI > SETUP > NETWORK > MOBILE NETWORK**; select the mode type for the wireless module you have got, as well as APN and the access number. The device will restart after all these have been setup.

MOBILE NETWORK

MODE TYPE:

APN:

USER NAME:

PASSWORD:

ACCESS NUMBER :

- Check the setup status:

Wireless module	User name	Password	APN	Access number
CDMA	card	card		#777
EVDO	card	card		#777
WCDMA			Check with SIM card manufacture	*99#
GPRS			Check with SIM card manufacture	*99***1#
EDGE			Check with SIM card manufacture	*99***1#

Finally, we can check the status of the SIM card by pressing **ENTER** in the live view after unit has restarted. You will find the status information for unit (see the screen below) which includes signal, network, dial up status and CMS connection status.

ALARM: VL
GPS : NORMAL
TEMPERATURE: 84F
ACCELERATION: INVALID
STREAMING 9999
FIRMWARE:X3-4-V000021
HEATER: ON
SPEED :000MPH
SIM CARD : OFF
DIAL UP : UNKNOW
3G NETWORK STATUS: CONNECT FAILED
WIFI NETWORK STATUS: CONNECT FAILED

WIFI:-95DB
VOLTAGE:12.5V
MCU: X3-4-0541-MCU-T033101
IGNITION: ON
DIRECTION: NW
NETWORK: NO SERVER
SIGNAL: 0